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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SHORTLEDGE, THOMAS E	

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,355	LIN ET AL.	
	Examiner	Art Unit	
	Thomas E. Shortledge	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to Remarks/Arguments filed 02/17/2005.

2. Claims 1-19 are pending the in application. Claims 1 and 14 are independent.

3. The objection to the Specification has been withdrawn in view of the applicants' amendment.

Response to Arguments

4. Applicant's arguments with respect to claims 1 and 14 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments filed 02/17/2005 have been fully considered but they are not persuasive.

The applicant argues (Remarks/Arguments, page 7) that no attempt is made in Zadrozny et al. to generate a database of inference rules where the inference rules between pairs of paths are based on the frequency of occurrence of words in the paths. The examiner argues that Zadrozny et al. teach merging non-terminals, representing rules, based on the frequency of occurrence of the non-terminals (col. 5, lines 13-18, and col. 6, lines 47-49).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the inference rules specify a relationship between two natural language expressions) are not recited in the rejected claim(s) 3 and 16. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's arguments against the references individually (claims 4 and 17), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The applicant argues (Remarks/Arguments, page 8) that in the rejection to claims 5 and 17, Zadrozny et al. do not count the number words in the text. The examiner argues that Zadrozny et al. count the non-terminals, where each non-terminal represents a word in a phrase, (col. 5, lines 11-17, col. 6, lines 47-49).

The applicant argues (Remarks/Arguments, page 8) that in the rejection to claims 6 and 19, Kendall et al. do not use a similarity measure to determine whether two rules should be combined. The examiner argues that Kendall et al. teach combining rules based on a similarity of ending or beginning words, (col. 15, lines 40-43), where a

similarity measure would necessarily be used in determining if the two words were matching, with an implied match threshold that would be satisfied for the two words to be found matching.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a database of inference rules that allows expansion of the search to find answers when similar but non-identical expressions are used) are not recited in the rejected claim(s) 7 and 8. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zadrozny et al. (5,937,385) in view of Fraser et al. (Inheritance in Word Grammar).

As to claims 1 and 14, Zadrozny et al. teach:

a computer implemented method using inherent computer readable medium (a grammar revisor system, Fig. 6, element 610 with Fig. 1A and 1B, and col. 4 lines 46-50), comprising;

building a database from text (creating a grammar database from an input list of sentences, col. 5, lines 4-7);

parsing text to identify paths (rules) formed by concatenated relationships between words in the text, (parsing the input to create a rule based on the unique non-terminals created for each inputted word, col. 5, lines 8-17, and 25); and

generating a database of rules comprising pairs of semantically equivalent paths by associating, in a computer, paths with each other based on a similarity measure between the paths, (creating a grammar database from an input list of sentences, where rules are created from the non-terminals with the sentences, and combining rules based on the similarity of the non-terminals within each rule, col. 5, line 66 through col. 6, line 5).

Zadrozny et al. do not teach inference rules.

However, Fraser et al. teach using inference rules in a grammar (pages 139-141).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the grammar database generation method of Zadrozny et al. with the inference rules of Fraser et al. to integrate linguistic categories of different levels into a single system, in which the same inheritance rule applies to morphology,

syntax, and semantics as taught by Fraser et al. (page 141).

8. Claim 2-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zadrozny et al. and Fraser et al. as applied to claims 1 and 14 above, in further view of Kendall et al. (5,995,918).

As to claims 2 and 15, Zadrozny et al. teach the similarity measure is based on the frequency of occurrence of words in the paths (merging non-terminals based on the frequency of occurrence, merging the two most frequently occurring non-terminals, (col. 6, lines 47-49). Then rules having the matching non-terminals are then replaced by one new rule, col. 5, line 66 through col. 6, line 10).

As to claims 3 and 16, Zadrozny et al. do not teach the words are the end points of the paths.

However, Kendall et al. teach combining rules based on the last word of the rule (col. 15, lines 40-43).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rule creation method of Zadrozny et al. with the merging method of Kendall et al. to provide for an improved method for generating a simplified a context free grammar, as taught by Kendall et al. (col. 2, lines 16-17).

As to claims 4 and 17, Zadrozny et al. teach counting occurrences of words with in specific paths, (combining non-terminals (representing words) within rules based on the frequency of occurrence of the non-terminals, merging the two most frequently occurring non-terminals, col. 6, lines 46-49).

Zadrozny et al. do not teach associating paths with each other based on the words at the end point of specific paths.

However, Kendall et al. teach merging rules based on the similarity of words at the end points, (col. 15, lines 45-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rule creation method of Zadrozny et al. with the merging method of Kendall et al. to provide for an improved method for generating a simplified a context free grammar, as taught by Kendall et al. (col. 2, lines 16-17).

As to claims 5 and 17, Zadrozny et al. teach comparing counts of occurrences of words, and associating paths based on the counts of occurrences of the words (merging non-terminals based on the frequency of occurrence, merging the two most frequently occurring non-terminals, (col. 6, lines 47-49). Then rules having the matching non-terminals can be replaced by one new rule, col. 5, line 66 through col. 6, line 10).

As to claims 6 and 19, Zadrozny et al. do not teach paths are associated only when the similarity measure exceeds a threshold.

However, Kendall et al. teach combining rules based on a similarity of ending or beginning words, (col. 15, lines 40-43). A similarity measure would necessarily be used in determining if the two words were matching, with an implied match threshold that would be satisfied for the two words to be found matching.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rule creation method of Zadrozny et al. with the merging method of Kendall et al. to provide for an improved method for generating a simplified a context free grammar, as taught by Kendall et al. (col. 2, lines 16-17).

As to claim 7, Zadrozny et al. do not teach:

initiating a search for electronic information; nor

expanding the search by reference to associated paths in a database constructed according to the method of claim 1.

However, Kendall et al. teach:

initiating a search for electronic information (asking the question "what do you want for lunch?", col. 5, line 40).

expanding the search by reference to associated paths in a database constructed according to the method of claim 1, (searching all the of the resulting combined corpus, that contains the combined rules, col. 15, lines 58-61).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rule creation method of Zadrozny et al. with the

searching method of Kendall et al. to provide for an improved method for generating a simplified a context free grammar, as taught by Kendall et al. (col. 2, lines 16-17).

As to claim 8, Zadrozny et al. teach the search is initiated from a location remote from the location of the database (user is able to input wanted information through the telephone to the database, Fig. 1A, elements, 130, 125, and 110).

As to claim 9, Zadrozny et al. Zadrozny et al. teach the similarity measure is based on the frequency of occurrence of words in the paths (merging non-terminals based on the frequency of occurrence, merging the two most frequently occurring non-terminals, (col. 6, lines 47-49). Then rules having the matching non-terminals are then replaced by one new rule, col. 5, line 66 through col. 6, line 10).

As to claim 10, Zadrozny et al. do not teach the words are the end points of the paths.

However, Kendall et al. teach combining rules based on the last word of the rule (col. 15, lines 40-43).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rule creation method of Zadrozny et al. with the merging method of Kendall et al. to provide for an improved method for generating a simplified a context free grammar, as taught by Kendall et al. (col. 2, lines 16-17).

As to claim 11, Zadrozny et al. teach counting occurrences of words with in specific paths, (combining non-terminals (representing words) within rules based on the frequency of occurrence of the non-terminals, merging the two most frequently occurring non-terminals, col. 6, lines 46-49).

Zadrozny et al. do not teach associating paths with each other based on the words at the end point of specific paths.

However, Kendall et al. teach merging rules based on the similarity of words at the end points, (col. 15, lines 45-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rule creation method of Zadrozny et al. with the merging method of Kendall et al. to provide for an improved method for generating a simplified a context free grammar, as taught by Kendall et al. (col. 2, lines 16-17).

As to claim 12, Zadrozny et al. teach comparing counts of occurrences of words, and associating paths based on the counts of occurrences of the words (merging non-terminals based on the frequency of occurrence, merging the two most frequently occurring non-terminals, (col. 6, lines 47-49). Then rules having the matching non-terminals can be replaced by one new rule, col. 5, line 66 through col. 6, line 10).

As to claim 13, Zadrozny et al. do not teach paths are associated only when the similarity measure exceeds a threshold.

However, Kendall et al. teach combining rules based on a similarity of ending or beginning words, (col. 15, lines 40-43). A similarity measure would necessarily be used in determining if the two words were matching, with an implied match threshold that would be satisfied for the two words to be found matching.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rule creation method of Zadrozny et al. with the merging method of Kendall et al. to provide for an improved method for generating a simplified a context free grammar, as taught by Kendall et al. (col. 2, lines 16-17).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas E. Shortledge whose telephone number is (571)272-7612. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER

6/15/2005